



COLOR VIDEO CAMERA

MODEL NUMBER 1CVC3035E

USER'S MANUAL



IMPORTANT — BEFORE ATTEMPTING TO CONNECT, OPERATE OR ADJUST THIS PRODUCT, PLEASE READ THESE INSTRUCTIONS COMPLETELY.

ACCESSORIES

Accessories included:

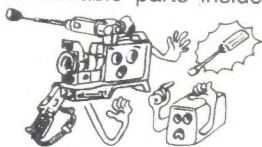
Standard accessories (supplied)
Camera Unit, 1pc.
Electronic Viewfinder, 1pc.

Optional accessories

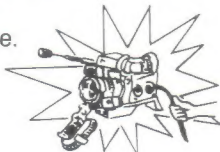
10-pin extension camera cable (20ft.) (1CVA335)
AC Adapter (Power Supply) (1CVA500)
with 3 cables
Negative-Positive Film Adapter (1CVA355)
Camera Carrying Case (1CVA225)
System Carrying Case (1CVA235)

PRECAUTIONS

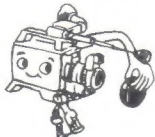
- × Do not attempt to disassemble the camera or power supply. In order to prevent electric shock, do not remove screws or covers. There are no user-serviceable parts inside.



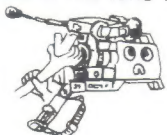
- × Do not abuse the camera. Avoid striking, shaking etc. The camera contains a sensitive pick-up tube which could be damaged by improper handling or storage.



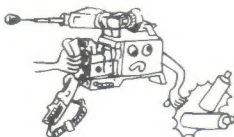
- × Do not let the lens remain uncapped when the camera is not in use.



- × Do not touch the surface of the lens with your hand.



- × Do not use strong or abrasive detergents when cleaning the camera body.



- × Do not aim the camera toward the sun or other extremely bright objects, whether it is turned on or not. This action could permanently damage the pick-up tube.



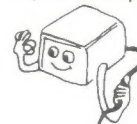
- × Do not expose the camera or power supply to rain or moisture, or try to operate it in wet areas. Do not operate the camera or power supply if it becomes wet.



- × Do not use the camera in an extreme environment where high temperature or high humidity exist.



- × Do not try to operate the camera and power supply on power line voltages other than 120V AC at 60Hz.



- × Do not leave the camera and power supply turned on when not in use. Do not turn the power on and off repeatedly without use. Do not block the ventilation slots.



- × Do not store the camera under conditions where temperatures are over 149°F (65°C).

FEATURES

Newvicon

This camera uses a newvicon pick-up tube that has excellent low light sensitivity and high resistance to damage from strong light sources.

Electronic Viewfinder

The electronic viewfinder allows you to see exactly what the camera lens sees. Inside the viewfinder there is one LED indicating insufficient light intensity, one LED indicating VCR remote control status, and one LED for white balance control status.

Camera Remote Control

VCR functions (PLAY/PAUSE, SLOW/F.ADV, ►► SCAN ◄◄ & INSERT) can be controlled from the camera, when used with VCR model 1CVD3020X.

Displays on the Electronic Viewfinder Picture Tube

Your own titles, a stopwatch, a battery charge indicator, a tape counter, and a fade-in/fade-out indicator can be displayed on the 1" picture tube. Titles and a stopwatch can also be recorded.

Auto Focus System

Focusing can be set automatically by placing the Focus switch in the "Auto" position.

Zoom Lens with Power Zoom and MACRO Function.

6:1 zoom lens with Power Zoom allows you to "zoom-in" for a closer picture. Simply press the Power Zoom switch. Close-up pictures down to 1" can be made by using the MACRO function.

Automatic Iris Control

Automatic iris control adjusts the amount of light entering the camera to provide the proper picture contrast.

Automatic White Balance Control

Special circuitry in this camera compensates for the different color temperatures of various light sources, so that optimum color pictures can be made under varying lighting conditions.

Boom Microphone

Sound can be recorded while taking video pictures. The built-in microphone can be extended to distinctly pick up sounds.

Standby/Operate Switch

This switch allows you to save battery power when the recorder is in the pause mode for a long period of time.

Negative-Positive Adaptor

Negative color film can be seen in normal color by using the optional Negative Film attachment.

Fade Switch

This feature allows you to make the picture "fade-in" or "fade-out" for special effects.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE CAMERA OR POWER SUPPLY TO RAIN OR MOISTURE.

TO PREVENT DAMAGE TO THE EXPENSIVE PICK-UP TUBE, DO NOT AIM THE LENS DIRECTLY AT THE SUN, OR BRIGHT LIGHTS, EVEN WHEN THE POWER IS OFF.

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The serial number of this product may be found on the bottom cover of the unit.

You should note the serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid identification in the event of theft.

Model No. 1CVC3035E

Serial No.

Date Purchased

Save the carton and packing material

A color video camera is a complex electronic instrument. Should it be necessary to transport it for any reason, pack it carefully in the original carton and packing materials. We also recommend using the original carton for storage when the camera is not in use.

OPERATING COMPONENTS AND THEIR FUNCTIONS

A. Camera Head

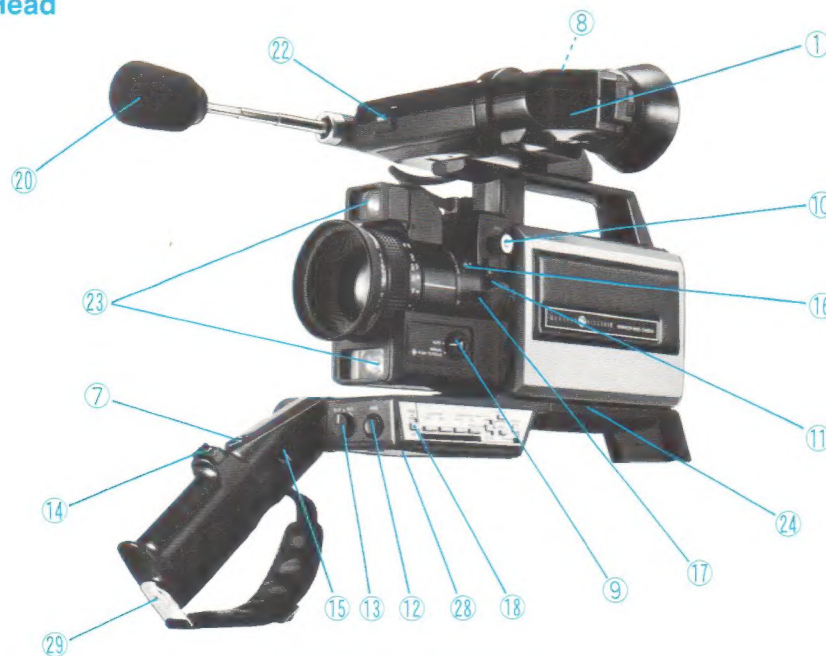


Figure 1—Front View

ELECTRONIC VIEWFINDER

1. Electronic Viewfinder (EVF) (Fig. 1)

This device is a black and white TV monitor which is attached to the top of the camera and shows the actual picture that the lens sees. The EVF can be attached so that the eyepiece is on either side of the camera for right or left hand operation. There are three indicator lights and a white bar viewable in the eyepiece.

a. VCR Record Indicator (REC)

This green light comes on when the recording is in progress.

b. Automatic White Balance Indicator (WB)

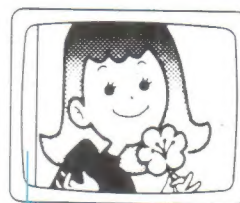
This is a two color light which changes color from red to green when the Automatic White Balance button is pressed. It glows red when the camera is turned on. This means that the white balance hasn't been set yet. Before you are ready to start recording, press the Automatic White Balance button (12). While the white balance is being automatically adjusted, the light flashes red-green-red-green, etc. The light glows green when the white balance is properly set. If the lighting is changed, reset the Automatic White Balance.

c. Light Intensity Indicator (UNDER)

This orange light comes on when there is insufficient light to produce a good quality picture. The camera has an Automatic Iris control circuit (10) that automatically adjusts the lens iris for proper exposure. When the orange light is on, provide more illumination or change the iris to "manual" and adjust accordingly.

d. Fade-In/Out Indicator

A white bar appears on the left side of the CRT when the Fader switch is set to the "ON" position.



Light intensity indicator (UNDER) (orange LED)

A.W.B. Indicator (WB) (two color display LED)

VCR pause indicator (REC) (green LED)

White bar

2. Electronic Viewfinder Mounting Knob (Fig.2)

This knob secures the EVF to the camera head.

3. Electronic Viewfinder Lock Lever (Fig.2)

This lever locks the EVF to the camera head. Release the lock to slide the EVF forward or backward.



Figure 2—Back View

4. Electronic Viewfinder Picture Tube (Fig. 2)

This 1" picture tube shows the actual scene the camera "sees".

5. Electronic Viewfinder Connector (Fig. 2)

This is a receptacle for the connection of the Electronic Viewfinder.

START/STOP

6. Standby/Operate Switch (Fig. 2)

This switch is used for longer battery life. Set the switch to "Standby" When leaving the camera in the pause mode for a log period. The picture disappears from the Electronic Viewfinder when the switch is set to "Standby".

NOTE: When the VCR is connected, it will not operate when the camera is in the "Standby" position.

When the switch is set to "DISPLAY ON" or "DISPLAY OFF", the camera and portable VCR operate normally. "DISPLAY ON" is for viewing the displays on the EVF picture tube. "DISPLAY OFF" is for inactivating the built-in display circuit.

7. VCR Pause/Record Button (Fig. 1)

Press this button on the handle to place the VCR in the pause mode or to start the VCR recording from the camera. When the VCR is recording, the green REC light in the EVF will be on.

PICTURE CONTROLS

8. Picture Turning Switch (Fig. 1)

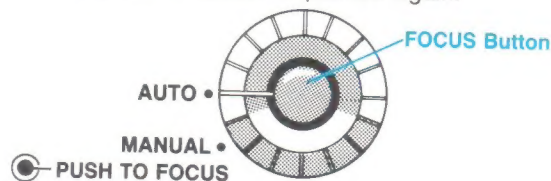
This switch is used to invert the picture on the EVF and should be switched only with power off.

- (1) Set to the "R" position for right hand operation.

- (2) When the EVF is mounted for left hand operation, the viewfinder picture is upside down. Accordingly, set to the "L" position so that the picture in the EVF can be seen right side up. This switch does not affect the picture which is being recorded.

9. Focus Knob and Focus Button (Fig. 1)

- (1) When the Focus Knob is set to the "Auto" position, the camera focus is adjusted automatically. When the knob is set to the "Manual" position, rotate the lens focus ring for best focusing.
- (2) When pushing the Focus button after setting to the "Manual" position, the distance detection circuit in the Auto Focus system works and focusing is instantly adjusted. This focus setting will not automatically change, unless the Focus button is pushed again.



10. Iris Control (Fig. 1)

This switch controls the lens operations and determines the incident light received by the camera — essentially, how bright the picture is.

- (1) AUTO—When the switch is pushed in, the iris automatically adjusts the lens opening to admit the proper amount of light for the camera.
- (2) MANUAL—When the switch is pulled out, the lens opening can be adjusted manually.

11. Color Temperature Correction Switch (Filter Selection) (Fig. 1)

The human eye has a unique adaptability to perceive color correctly even when the light source is changed (When color temperature varies) from pure white to red-white. However, machines do not have such adaptability, and "see" even the slightest change. Therefore, color temperature is a very important factor in the handling of a color camera. This switch selects the approximate corrections for indoor or outdoor use.

Set to "☀" for outdoor use and set to "💡" for indoor use.

12. Automatic White Balance Button (Fig. 1)

The camera has an Automatic White Balance circuit that compensates for the different color temperatures of various light sources. White balance can be set automatically, but first, set the Color Temperature Correction switch; move the Standby/Operate switch to one of the Operate positions, and place the lens caps on the lens. Press the button marked AWB. The WB indicator in the EVF glows green when the white balance is set correctly. It is recommended that the white balance be reset whenever the scene is changed.

13. Color Control Knob (Fig. 1)

This knob controls the color of your recorded picture. The red and blue color are balanced and preset at the center position of the knob. This will usually provide accurate color reproduction. If you wish more red color or more blue color in your picture, adjust the knob. When the camera and VCR are connected to a color TV, you can see the effect of this control.

14. Power Zoom Switch (Fig. 1)

This switch works in conjunction with the zoom lens. Pressing this button allows you to "Zoom-in" (Telephoto or T position) or "Zoom-out" (Wide Angle or W position).

15. Power Zoom Speed Control Switch (Fig. 1)

The power zoom lens has a variable speed control. Adjust the speed as desired.

16. Zoom Ring (Fig. 1)

The zoom ring can be adjusted by the Power Zoom switch or can be operated manually. It is marked with the focal length in millimeters. The shorter the focal length, the wider the viewing angle, and vice versa.

17. MACRO Setting Button & MACRO Position (Fig. 1)

The zoom ring can be adjusted for close-up pictures down to one inch. Move the ring to 12 mm, then press the MACRO button and continue turning the ring so that the green line is opposite the white indicator line.

NOTE: Make sure the illumination on the subject is sufficient for close up shooting.

18. Fade Switch (Fig. 1)

The fade in/fade out feature functions in conjunction with the VCR Pause/Record button (7). When the switch is in the ON position, the picture automatical-

ly fades in or fades out each time you press the VCR Pause/Record button. Fade in time is approximately 6 seconds and fade out time is approximately 5.5 seconds.

19. Negative - Positive Reverse Switch (Fig. 2)

This switch reverses the video signal. In normal shooting set to the "POSITIVE" position. When set to the "NEGATIVE" position, negative color films can be seen as a normal color picture. Use the optional Adapter for film installation.

AUDIO

20. Boom Microphone (Fig. 1)

The camera will record audio while the picture is being recorded. The boom microphone can be extended for more distinct audio reproduction.

21. External Microphone Input (Fig. 2)

Closer audio pickup can be obtained by connecting an external microphone. The built-in boom microphone is automatically disconnected when the external microphone is plugged in. Use a microphone with 600 ohm impedance.

MISC. CONTROLS & FEATURES

22. Tally Light (VCR Recording Indicator) (Fig. 1)

The red tally light on the front of the EVF flashes when the VCR is recording.

23. Distance Detection Windows (Fig. 1)

These two windows permit the computing of the distance from an object to the lens.

24. VCR Compatibility Switch (Fig. 1)

This switch permits the use of this camera with most other VHS portable recorders. Place the switch in the ⊕ RUN position. If the camera is connected to VHS recorders other than the 1CVD3020X, the VCR Pause/Record switch, the REC light in the EVF, and the Tally light might operate in reverse. If this happens, place the camera in "Standby" and move the VCR Compatibility switch to the RUN ⊖ position. (Slide the Shoulder Pad backward for access to this switch).

25. Camera Cable (Fig. 2)

This 7 foot long cable is used to connect the camera to the portable VCR.

26. Adjustable Handle Grip & Knob (Fig. 2)

This grip is used for holding the camera and is tiltable for easy holding and operation. The grip should be firmly tightened by turning the knob.

27. Shoulder Pad (Fig. 2)

The shoulder pad is useful when recording without a tripod and can be adjusted for the most comfortable position.

28. Tripod Mounting Hole (Fig. 1)

This hole is used for mounting the camera on a tripod with a standard 1/4-20 thread.

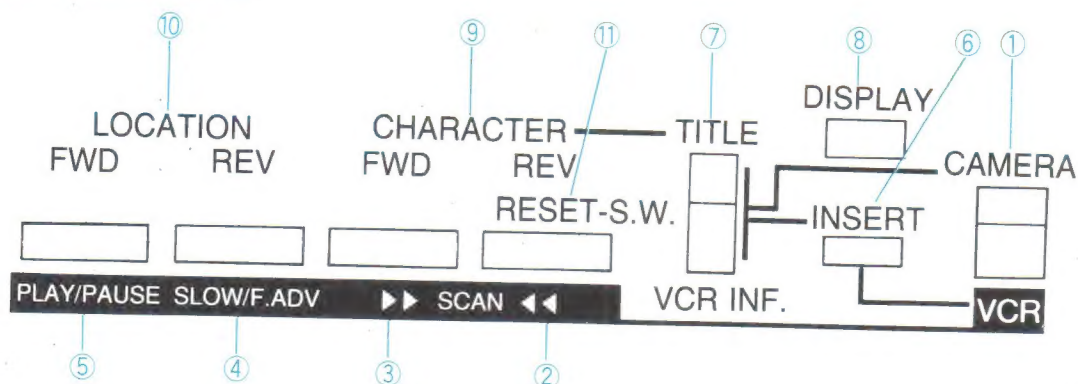
29. Holder Pod Mounting Hole (Fig. 1)

This hole is used when attaching a holder pod. Do not use this hole when mounting the camera on a tripod.

30. Accessory Shoe

This Accessory Shoe can be used for mounting of accessories.

B. CONTROL PANEL



Camera Remote Control (These Functions Are Not Operable With Some VCR's)

① VCR/CAMERA selector switch

This switch determines if the attached VCR recorder will record or playback.

When the switch is in the "CAMERA" position, the Portable VCR is in the RECORD/PAUSE mode. When the switch is in the "VCR" position the VCR is in the PLAY/PAUSE mode.

② SCAN ◀◀ (REVERSE)

During playback, hold this button down to obtain a reverse motion picture at 5 to 9 times normal speed (EP recordings provide the best results).

③ SCAN ▶▶ (FORWARD)

During playback, hold this button down to obtain a forward motion picture at 5 to 9 times normal speed (EP recordings provide the best results).

④ SLOW/F.ADV

During playback, press and hold this button to advance frames separately or see slow motion pictures.

⑤ PLAY/PAUSE

Press this button to release or engage the playback pause mode.

This button only works when the VCR mode selector switch is in the "VCR" position.

⑥ INSERT

This is an editing mode to re-record on the previously recorded tape without interference. You can get a smooth transition between two separate recordings on the same cassette. Press this button for RECORD/PAUSE mode and squeeze the camera trigger to add the new recording.

Note: Functions ② through ⑥ operate only when the VCR/CAMERA selector switch ① is in the "VCR" position.

Displays on the CRT

⑦ Display Selector switch (See page 12).

This switch selects the display on the CRT.

- TITLE.....character (alphabet, number, sign)
- STOPWATCH (SW).....stopwatch
- VCR INFORMATION...memory, tape counter, battery

⑧ DISPLAY

Press this button to view the displays on the CRT.

⑨ CHARACTER FORWARD/REVERSE

Press these buttons to change characters after setting the display selector switch to the "TITLE" position.

⑩ LOCATION FORWARD/REVERSE

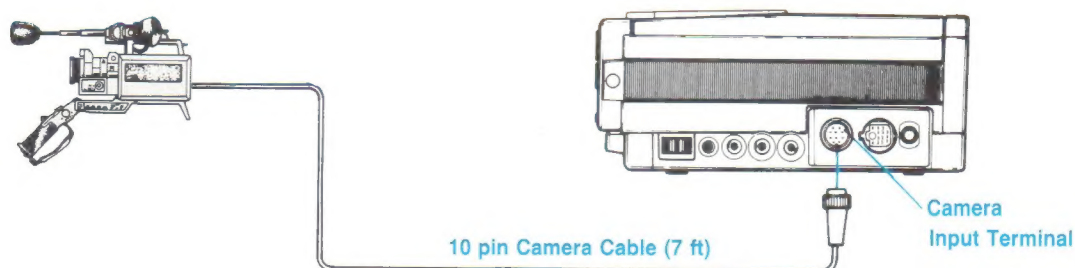
Press these buttons to change the character position after setting the display selector switch to the "TITLE" position.

⑪ RESET

This button resets the stopwatch in the display to 00:00:00. Display Selector switch must be in "SW" position.

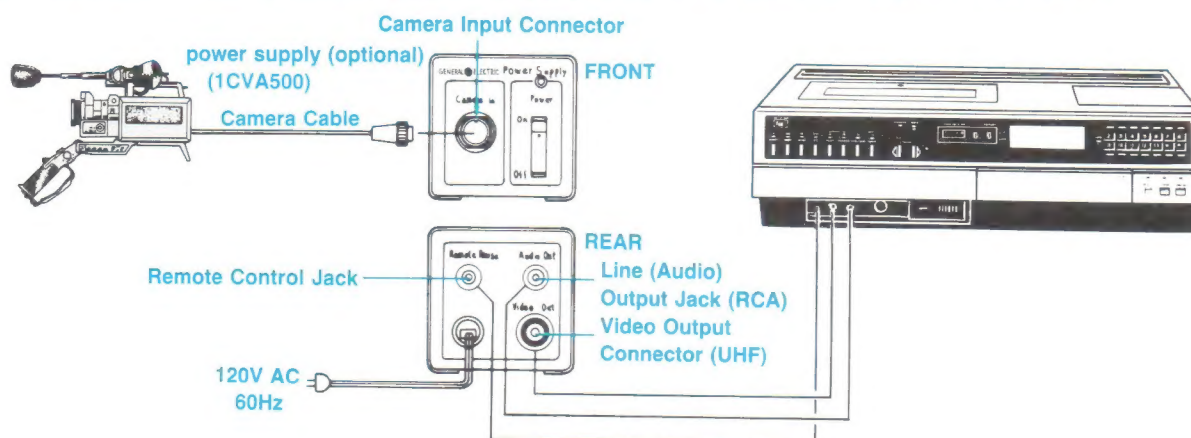
CONNECTION DIAGRAM

A: Camera Head and portable VCR



Connect the camera cable to 10-pin socket on portable VCR as illustrated. Be sure to connect the camera to the portable VCR before turning on the power switch on the portable VCR. If the switch is turned on prior to connecting the cable, trouble could develop.

B: Camera Head, optional power supply and VCR without 10-pin connector



1. Connect the camera cable from the camera head to the 10-pin camera socket on the power supply, (1CVA500). (Make sure that the power switch of the power supply is turned off before connecting the cable.)
2. Connect the video cable from the VIDEO OUT socket (UHF connector) on the power supply to the VIDEO IN connector (standard phono connector) on the VCR.
3. Connect the audio cable from the AUDIO OUT connector on the power supply to the AUDIO IN connector on the VCR.
4. Connect the VCR remote control cable from the REMOTE connector on the power supply to the REMOTE PAUSE connector on the VCR.
5. Plug in the power plug of the power supply into wall socket (120 Volts).
6. Insert the AC power plug of the VCR into the wall socket.

Notes:

1. The camera cable between camera head and power supply or between camera head and portable VCR can be extended by using the optional extension camera cables (1CVA335). (Use three 20 feet extension cables to extend upto 67 feet)
2. The connections between the VCR and TV set are explained in the operating instructions for the VCR.
3. The remote control functions described on page 6 are not operational when camera is used with the power supply.

C: Camera Head and Electronic Viewfinder

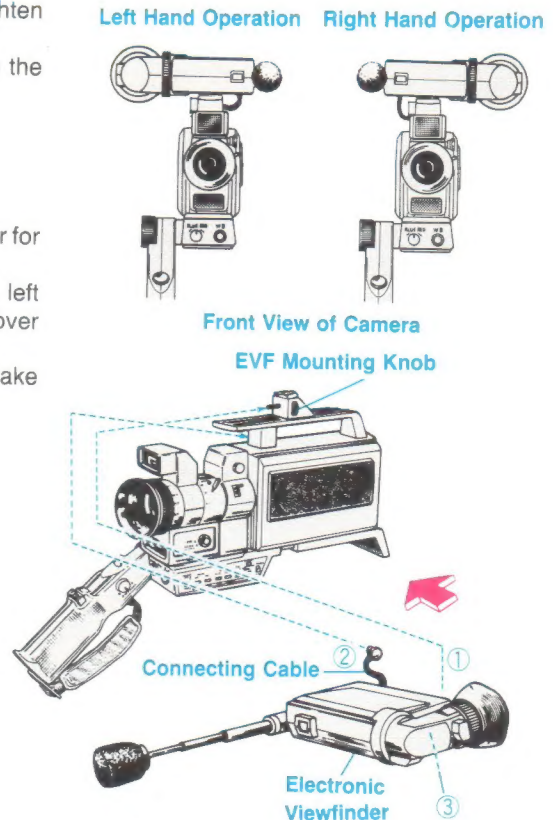
1. Attach the Electronic viewfinder to the camera head and tighten the EVF Mounting knob firmly.
2. Plug the connecting cable on the Electronic Viewfinder into the connector on the camera head.
3. Set the picture turning switch to the "R" position.
See page 4 ⑧.

Note:

The above procedure is for mounting the Electronic Viewfinder for right hand and right eye use.

When mounting the Electronic Viewfinder for left hand and left eye use, unscrew the EVF Mounting knob, flip the viewfinder over and reattach by following the same procedure.

Also, place the Picture Turning switch in the "L" position. Make sure power is off first.



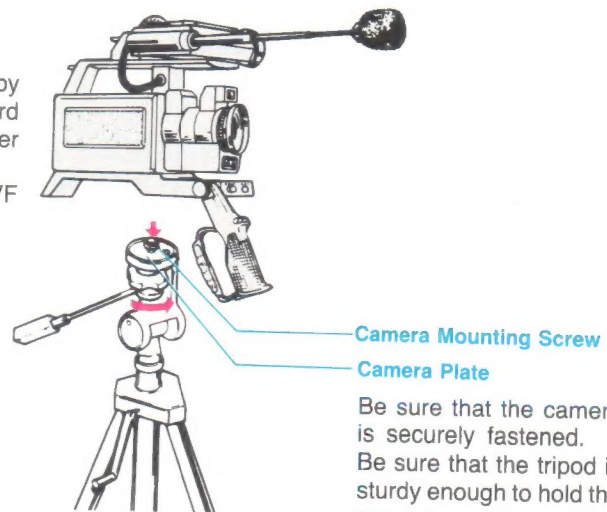
MOUNTING THE CAMERA ON THE TRIPOD

The camera may be attached to a tripod when you wish to make recordings without holding the camera or if you need to keep the camera very steady while recording.

MOUNTING THE CAMERA ON A TRIPOD

Mount the camera with shoulder pad onto the tripod by screwing the mounting screw on the tripod (standard 1/4"-20 thread) into the mounting hole on the shoulder pad.

Also slide the EVF backward for easy viewing of EVF picture.



Be sure that the camera is securely fastened.

Be sure that the tripod is sturdy enough to hold the camera.

OPERATING PROCEDURE

PREPARING TO RECORD

1. Connect the camera and portable VCR as previously shown.
2. Remove the lens cap.
3. Turn the power switch of the VCR on and press the Record and Play buttons simultaneously.

On some VCR models you may have to switch the input selector to the camera position.

Note: To use the Camera Remote Control, see page 11.

4. Confirm that the VCR Pause Indicator (green LED in the Electronic Viewfinder) is off. If the green LED is on, depress the VCR Pause/Record button on the camera handle (If the green LED lights, actual recording is being made).
5. Select the Color Temperature Correction switch for indoor or outdoor use.
6. Set the Standby/Operate switch to the "DISPLAY ON" position. For display function and its operation, see pages 12 through 14.

Note:

To save battery power while preparing to record, it is better to put the Standby/Operate Switch in STANDBY position so that you only preheat the pick-up tube of the camera.

Also, to save power during operation, set the Standby/Operate switch to the "DISPLAY OFF" position when the displays on the CRT are not necessary and you wish to view the EVF picture only. (See page 4 ⑥)

7. Check light intensity to camera lens. Confirm that the orange LED indicator is not illuminated. This indicates that light intensity to the camera lens is correct. If the orange LED is on, you need more incoming light. Adjust the iris control, ⑩.
8. Adjust the picture focus. Place the Focus switch in the "Auto" position to adjust lens focus automatically. Focus switch may be placed in the "Manual" position for manual focus. Use Focus button properly. (see page 4 ⑨)

Note:

Focus should be adjusted all the way at the zoomed-in (telephoto) position. Focus should then track over the entire zoom range. When the camera is aimed at a new scene or object, refocusing will be necessary.

9. Adjust the white balance. Aim the camera at a white object (never at a light source). White lens cap may be placed on the lens for outdoor shooting if there is no white object. Push the A.W.B. button to adjust the white balance. Wait for the WB indicator in the EVF to glow green.

Note:

1. When the camera is first turned on, permit warm-up for approx. 30 seconds before adjusting white balance.
2. It is recommended that the A.W.B. button be pushed to readjust the white balance every time a new scene is selected.

RECORDING

10. Depress the VCR Pause/Record button on the camera handle. The green VCR Record Indicator light in the EVF will light up as the recorder begins to record.
11. Depress the VCR Pause/Record button on the camera handle to stop the recorder anytime. Depress the switch again to resume recording. To use the special features, see pages 10-14.
12. STANDBY Setting
Use the STANDBY switch to avoid unnecessary power consumption when you expect to stop the recording more than a couple of minutes.
 1. Stop the recording by pressing the VCR Pause/Record button on the camera.
 2. Set the Standby/Operate switch to the "STANDBY" position during the pause mode.
 3. Set the Standby/Operate switch to the "DISPLAY ON" or "DISPLAY OFF" position just before recording is resumed. Wait for the viewfinder picture to appear.
 4. Resume recording by repressing the VCR Pause/Record button on the camera handle.

Please note that video noise may appear on the monitor during playback if you do not follow this procedure. Operations can't be performed when the camera is set to the "Standby" position when operating with a portable VCR.

PLAYBACK

13. Instant Replay.
To watch the program just recorded, rewind the tape, then press the Play button. The playback picture appears automatically in the viewfinder of the camera when connected to the portable VCR. When the power supply is used, this feature does not function.

Note:

Always replace the lens cap when the camera is not in use.

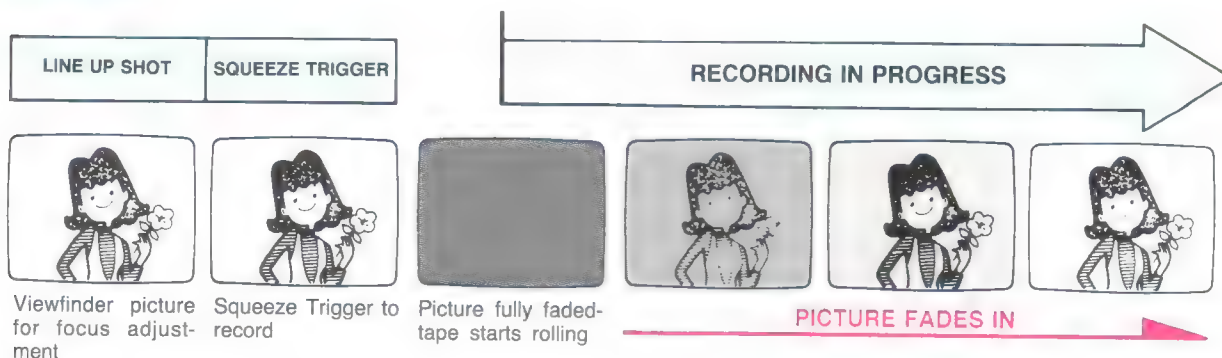
DESCRIPTION OF FUNCTIONS

•FADE IN/FADE OUT

When the Fade Switch is ON:

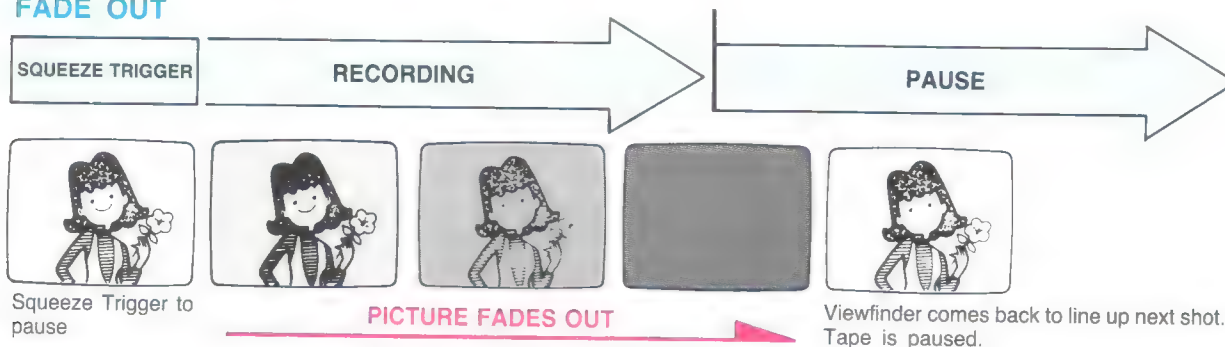
1. The picture will "fade in" everytime the camera trigger is squeezed to start recording.
2. The picture will "fade out" everytime the camera trigger is squeezed to pause the recorder.

FADE IN



With the Fade switch on, the tape does not start rolling until the picture in the viewfinder is fully faded out. Then tape rolls as the picture fades in.

FADE OUT



With Fade switch on, the recorder does not pause until the picture has fully faded out. After the recorder pauses, the viewfinder picture returns in order to line up the next shot.

•AUTO FOCUS

Focusing is automatically adjusted by placing the Focus switch in the "AUTO" position. Place an object in the center of EVF picture for Auto focusing. In the conditions shown below, it is recommended that the Focus switch be placed in the "MANUAL" position for manual focusing.

1. Scene with both far and near objects.



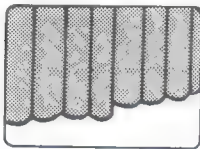
2. Perspective scene.



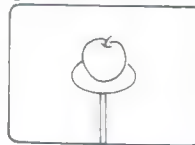
3. Scene with fine horizontal pattern.



4. Non-reflective object such as a black curtain.



5. Small objects : Note The Auto Focus system needs a reflected area. When camera to object distance is 10 ft., an object must have a reflected area which is greater than a circle approximately 4 inches in diameter.



USING THE REMOTE CONTROLLER

When the camera is connected to the portable VCR, VCR functions (PLAY/PAUSE, SLOW/F.ADV, ►►SCAN◄◄, INSERT) can be controlled from the camera which incorporates the microcomputer system. Also, all playback functions can be viewed in the electronic viewfinder. For these operation, place the camera remote switch on the VCR in the "ON" position. See page 6 for button functions.

INITIAL SET-UP

1. Connect the camera to the recorder.
2. Turn the recorder power "ON".
3. Set the recorder's CAMERA REMOTE switch "ON".

TO RECORD

1. Move the VCR/CAMERA switch on the side control panel to the "CAMERA" position.
2. Use the VCR Pause/Record button to engage or release pause.

TO PLAYBACK

1. Place the VCR/CAMERA switch in the "VCR" position.
2. Use the PLAY/PAUSE button to engage or release pause feature.
3. Use ►► SCAN ◄◄ to locate a particular segment.
4. Use SLOW/F. ADV as desired.

TO STOP OPERATION

1. Set the Camera Remote switch on the recorder to "OFF".
2. Now, the Rewind or Fast Forward feature can be activated.

TO INSERT

If you wish to add a new section to a previously recorded tape.

1. Place the VCR/CAMERA selector in the "VCR" position.
2. Use ►► SCAN ◄◄ to find the particular section.
3. Press the "INSERT" button to place the VCR in the RECORD/PAUSE mode.
4. Squeeze the VCR Pause/Record button to add on the new recording.
5. Use the VCR Pause/Record button to engage or release pause.

Note:

1. STANDBY has a top priority in any mode.
2. Switching the VCR/CAMERA selector automatically engages the pause mode.
3. If the safety tab of the cassette is missing, no recording can be made.
4. Recordings made in EP speed provide the best looking SCAN and STILL pictures.
5. If the tape comes to its end while the remote control is used in RECORD/PAUSE mode or INSERT/PAUSE mode, — the recorder's power switch will automatically turn off.
6. When the "INSERT" button is pressed and VCR is in the RECORD/PAUSE mode, VCR reverts to PLAY/PAUSE mode when the tape counter reads "0000" and the Memory switch of the VCR is "ON".
7. Push the "INSERT" button again when you change the standby switch position from the "DISPLAY OFF" to the "DISPLAY ON" during the INSERT/PAUSE mode and you can't start a new video recording by the camera handle grip trigger.

DISPLAYS ON THE CRT OF ELECTRONIC VIEWFINDER

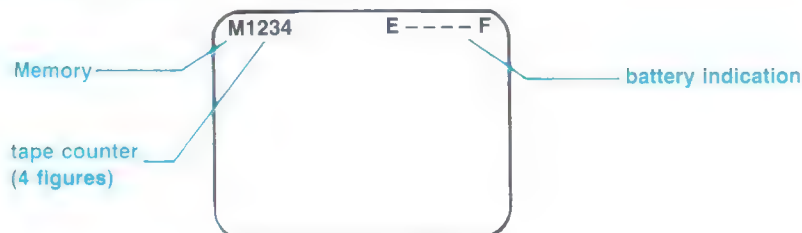
When the camera is connected to the portable VCR, the following displays can be viewed on the EVF CRT by pressing the Display button on the side control panel. Be sure to set the Standby/Operate switch to the "DISPLAY ON" position. See page 6 for button functions.

1. VCR INFORMATION

Set the Display Selector switch to the "VCR INF" position.

VCR INFORMATION can't be recorded and is not affected by the position of the VCR/CAMERA selector switch.

VCR INFORMATION can be seen in the Electronic Viewfinder.



1—1. Tape counter & Memory

The Tape Counter indicates how far the tape has moved. It is very useful for locating the beginning of programs. The Memory and tape counter will be indicated along with the liquid crystal display on the VCR.

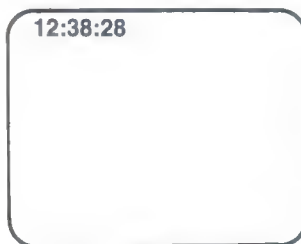
1—2. Battery indication

E ---- F
E --- F
E -- F
E : F

The Battery Indicator shows the amount of charge remaining on the battery pack of the recorder. Hyphens between "E" and "F" fade out as the amount of charge is reduced. The last hyphen flashes just before the battery reaches the end of its usable charge.

2. STOPWATCH

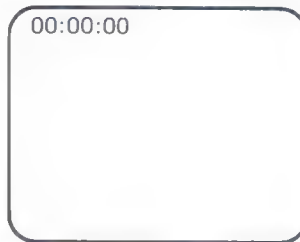
A stopwatch can be displayed on the CRT and can be recorded when the display selector switch is placed in the "SW" position. The stopwatch starts or stops every time the camera Pause/Record button is squeezed so that you can keep track of recording time. Be sure to place the VCR in the RECORD/PAUSE mode (Camera/VCR switch in the Camera position).



stopwatch display
12 minutes 38 seconds and
 $\frac{28}{100}$ seconds

To Reset The Stopwatch

To reset the stopwatch to 00:00:00, press the "RESET" button on the side control panel before starting the recording or when the VCR is in the RECORD/PAUSE mode. (Display selector switch must be in the "SW" position.) The stopwatch will continue to advance until the "RESET" button is pressed.



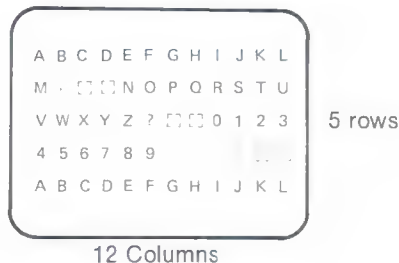
When the stopwatch reaches "59:59:99", it reverts to "00:00:00".

3. TITLES

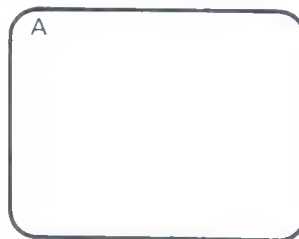
You can produce your own titles by placing the Display Selector switch in the "TITLE" position.

Titles can be recorded. Be sure to place the VCR in the RECORD/PAUSE mode (Camera/VCR switch in the camera position).

60 positions are available for inputting the various letters and numbers of your title. See below.



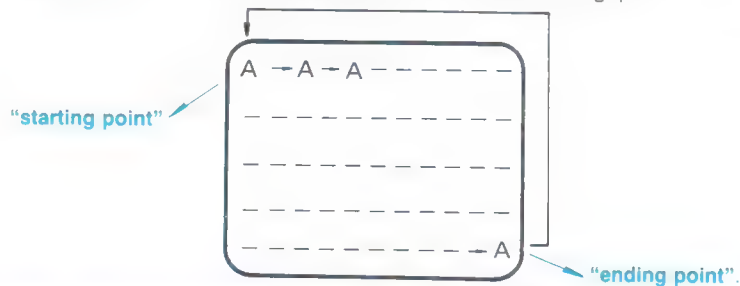
When the display selector is set to "TITLE", the letter "A" appears first at the upper left corner as shown.



To Change the Input Position

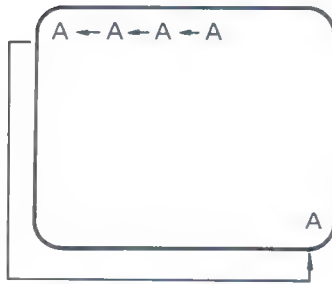
To Move Forward

Press the "LOCATION FORWARD" button to move the input position forward. When the character reaches the right side corner of the bottom of the CRT, the character reverts to the "starting point".



To Move Backward

Press the "LOCATION REVERSE" button to move the input position back.



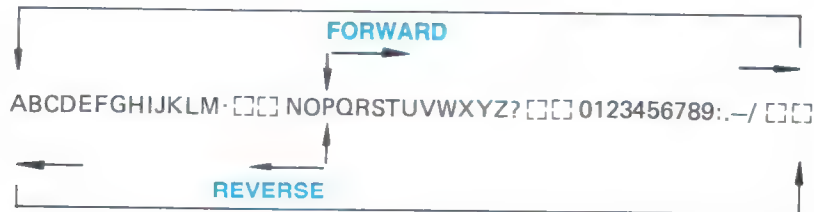
When the character is at the "starting point", it moves next to the "ending point" as shown.

To Change Characters

Press the "CHARACTER FORWARD" button or "CHARACTER REVERSE" button to change characters. Characters will move forward or backward in the sequence shown below.

These two buttons do not change the position of the characters.

The symbols ☐ represent blank spaces. To insert a space between words, change the input position to where you want a space, then change the character sequence to a ☐ (blank space). Move the input position forward (LOCATION FWD) before pressing the CHARACTER FWD or REV button.



For instance, in case the character "P" is being displayed, "Q" appears on the CRT when the "CHARACTER FORWARD" button is pressed. Also, "O" appears when the "CHARACTER REVERSE" button is pressed. In this way, everytime the "CHARACTER FORWARD" or "CHARACTER REVERSE" button is pressed, the character will be changed in sequence.

When the character reaches the last ☐ during FORWARD, it returns to the "A".

Also, when the character reaches the "A" during REVERSE it returns to the last ☐.

Note:

1. While producing a title, once the display selector switch is set to the position other than "TITLE" position, or when the standby switch is set to "STANDBY" or "DISPLAY OFF", or when the VCR/CAMERA selector switch is set to "VCR" position, all the characters on the CRT will be erased.
2. "LOCATION FWD" button, "LOCATION REV" button, "CHARACTER FWD" button and "CHARACTER REV" button are push-push type. Press and hold these buttons to gain quick access to the desired location or character.
3. If you change the standby switch position to the "DISPLAY ON" from the "DISPLAY OFF" during recording or playback, VCR becomes pause mode and stopwatch reverts to "00:00:00".
4. To record the title, simply record a picture. To erase the title, see note 1, above.

TO PRODUCE THE BEST COLOR VIDEO PROGRAM

The 1CVC3035E has been designed for normal scene illumination of 90 footcandles (900 lux). An illumination of 90 footcandles (900 lux) is standard, but the camera may be used at F1.4, if illumination is more than 3 footcandles (30 lux).

Rough Values of Brightness

The figures in this table are approximate values for reference.

		[footcandle]	[lux]	[Place or Daylight]
<div style="border: 1px solid black; padding: 5px; width: fit-content;">Lighting necessary 3 footcandles (30 lux)</div> <div style="text-align: center; color: red; font-weight: bold;">Practical range</div> <div style="border: 1px solid black; padding: 5px; width: fit-content;">1,000 footcandles (10,000 lux)</div>	<div style="border: 1px solid black; padding: 5px; width: fit-content;">Standard Illumination 90 footcandles (900 lux)</div>	10	100	
			100~200	• Commercial stairways
			200~300	• Indoor golf range
			400~500	• Office with fluorescent lamps
			500~700	• Department store counter
			700~800	• Assembly line
		100	1,000	
			1,000	• Sunlight one hour before sunset, clear day
			1,000	• Window side of an office with fluorescent lamps
			2,000	• Sunlight one hour after sunrise on a cloudy day
		1,000	10,000	
			25,000	• Sunlight at 10 AM, cloudy day
			32,000	• Sunlight at noon, cloudy day
			35,000	• Sunlight at 3 PM, clear day
		10,000	65,000	• Sunlight at 10 AM, clear day
			100,000	• Sunlight at noon, clear day

• Lighting

Indoor Lighting

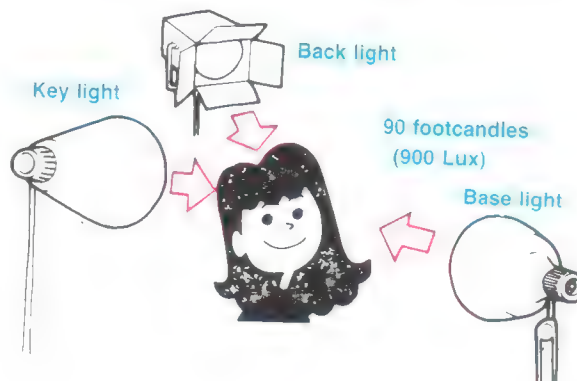
- Object illumination: Approx. 90 footcandles (900 lux).
- Keep sufficient distance between the lights and the object to get uniform illumination.
- Maintain as much brightness as possible behind the object.
- Minimize object shadows.

These are the fundamentals for reducing the contrast ratio. To emphasize a three-dimensional effect or to add depth, use additional spot lights.

Front Light and Back Light

When using your camera outdoors, use it preferably with the sun behind you. Using your camera with the sun in front of you not only makes for difficult aperture ring adjustment, but creates a video signal with too much contrast and subdued color. If possible, zoom in on your object to fill the screen.

Following these simple steps assures that your camera will produce natural color programs.



BEFORE REQUESTING SERVICE

Condition	Main Cause and Remedy
No picture	<ul style="list-style-type: none"> ● Make sure the Power Supply is plugged in (if the Power Supply is being used). ● Make sure the Standby switch is set to the "Operate" position. ● Make sure the VCR power switch is on – and the battery is charged. ● Make sure the lens cap is on. ● Make sure all necessary cables are connected correctly.
Wrong Color	<ul style="list-style-type: none"> ● Check the Color Temperature Correction switch for the proper setting. ● White balance (AWB) may need to be readjusted. ● Make sure the color TV is adjusted properly. ● Make sure the lighting is adequate. <p>Insufficient lighting can considerably alter the color of a picture.</p>
Viewfinder picture is upside down	<ul style="list-style-type: none"> ● Turn camera power off. Then place the picture turning switch in the proper position.
VCR does not pause immediately when the Pause button is squeezed.	<ul style="list-style-type: none"> ● This is normal if the Fade switch is on.
Display does not appear on the CRT	<ul style="list-style-type: none"> ● Make sure the "DISPLAY" button is pressed. ● Make sure the VCR is in the proper mode. ● Make sure the Standby/Operate switch is in the "DISPLAY ON" position.
Camera remote control does not operate.	<ul style="list-style-type: none"> ● Make sure the camera remote switch of the VCR is in "ON" position. ● Make sure the VCR/CAMERA selector switch is in the proper position.
Focus is not sharp	<ul style="list-style-type: none"> ● Check to see if the surface of the lens is dirty or dusty. ● Make sure the lens is properly focused. ● Make sure the Focus switch is set to the "Auto" position.
Color for indoor or outdoor is not correct	<ul style="list-style-type: none"> ● Make sure the Color Temperature Correction switch is properly set. ● Color control knob may need to be adjusted.
Recorder does not operate	<ul style="list-style-type: none"> ■ When the Remote control is used, ● Make sure the remote pause cable is correctly connected. (in case a home video recorder is used) ● Make sure the camera cable is properly connected to the portable VCR.

SPECIFICATIONS

CAMERA SYSTEM

Single Tube

CAMERA TUBE

Single Carrier Frequency

Frequency Separation

One 2/3" integrated, stripe filter

electrostatic focusing, magnetic deflection,

separate mesh, Newvicon tube, type S4131

FOCUS

Electro-Static Type

SCANNING STANDARDS

525 lines, 60 field, 30 frames

SYNC. SYSTEM

Internal Sync:RS-170

VIDEO OUTPUT LEVEL

Standard NTSC type composite

1.0V p-p, 75 ohms

HORIZONTAL RESOLUTION

More than 250 lines

S/N RATIO (LUMINANCE)

More than 45 dB

LENS MOUNTING

Built-in Zoom Lens (not "C" mount)

LENS

6:1 Zoom Lens with Auto/Manual iris control.

Auto iris: closed with power off.

Auto Zoom Lens and Macro construction.

Auto focus system.

F: 1.4 f: 12mm-72mm,

d: 1.2m-infinity, (Lens filter diameter: 58mm)

MINIMUM LIGHT INTENSITY

ON OPTICAL IMAGE

OPTIMUM LIGHT INTENSITY

ON OPTICAL IMAGE

30 Lux (F 1.4) 3 footcandles

ELECTRONIC VIEWFINDER

900 Lux 90 footcandles

MICROPHONE

Monochrome 1 inch CRT, built-in

AUDIO OUTPUT LEVEL

Condenser Microphone

EXTERNAL MICROPHONE

-20 dB, Hi-impedance

INPUT LEVEL

COLOR TEMPERATURE SWITCH

-70 dB, 600 ohm unbalanced, M3 connector

POWER SOURCE

POWER CONSUMPTION

2 Step Switch (indoor, outdoor) & Auto Adjust

WITH ELECTRONIC VIEWFINDER

12V DC 120V AC 60 Hz (with AC Adapter)

CABLE LENGTH

12V DC 6.4W (5.8W at Manual Focus)

Standard camera cable, 7ft.

Max. 67 ft. with extension

cables

WEIGHT:

CAMERA HEAD

WITH ELECTRONIC VIEWFINDER

5.5 lbs (With Lens, 7 ft. Cable & shoulder pad/handle grip)

DIMENSIONS:

CAMERA HEAD

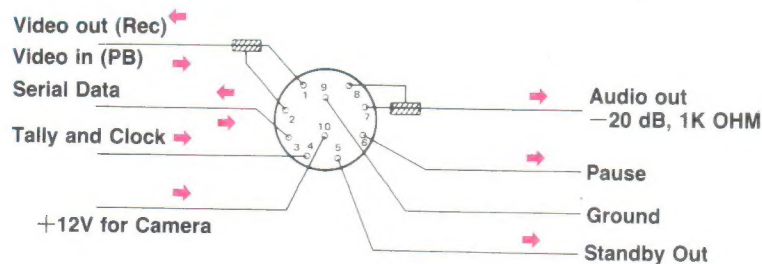
8.3"(W) × 8.7"(H) × 11.7"(D)

WITH ELECTRONIC VIEWFINDER

208mm(W) × 218mm(H) × 292mm(D)

Note: Specifications subject to change without notice.

10 Pin Camera Connector Diagram



LIMITED WARRANTY GENERAL ELECTRIC COLOR VIDEO CAMERA

1. If your General Electric Color Video Camera fails because of a manufacturing defect within ninety days from the date of original purchase, we will repair the camera at no charge to you.
2. In addition, if a component part of your camera fails because of a manufacturing defect within the fourth through twelfth month (fourth through sixth month for the camera pick-up tube) from the date of original purchase, we will exchange the part without charge. Service labor charges will be the owner's responsibility.

Parts and pick-up tubes provided may be new or rebuilt at our option.

This warranty is for products purchased and retained for normal home use within the fifty states of the U.S.A. and Washington, D.C., regardless of whether or not you move.

To obtain service under this warranty:

1. Properly pack the camera. Include any cables, etc. which were originally provided with the camera. We recommend using the original carton and packing materials.
2. Include in the package a copy of the sales receipt or other evidence of date of original purchase. Also include your name and address and a description of the defect.
3. Ship the camera to a General Electric authorized Video Camera Service Shop. (See listing of service shops packed with this camera and consult your dealer). You must pay for transportation and insurance.
4. Pay any charges billed to you by the servicer for service not covered by the warranty. The return transportation and insurance will be at your expense if service is for camera that failed more than ninety days from the date of original purchase.

EXCLUSIONS

Service labor charges for installation of this camera and costumer education are not covered under this warranty. Of course, it does not cover cameras which have been modified, damaged or misused. Care should be taken to follow User Manual instructions and prevent damage to the pick-up tube. **In no event shall the General Electric Company be liable for incidental or consequential damages.** Some states do not allow the exclusion of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

This warranty is provided by General Electric Company, Television Division, Portsmouth, Virginia 23705.

**GENERAL ELECTRIC COMPANY
TELEVISION DIVISION
PORTSMOUTH, VIRGINIA 23705**

GENERAL  ELECTRIC